

AMENDMENT

U.S. Appln. No. 09/508,418

Please enter the following amended claims:

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Sub B1
1. (Amended) An isolated protoporphyrinogen oxidase tolerant to photobleaching herbicide and derivatives thereof, comprising a polypeptide having the amino acid sequence represented by SEQ ID NO: 2 or a mutated peptide having deletion, addition, substitution, etc. of one or more amino acids in the above amino acid sequence and having an enzyme activity and tolerance to pyrazole compounds equivalent to that of said protoporphyrinogen oxidase tolerant to photobleaching herbicide.

2. (Amended) The isolated protoporphyrinogen oxidase tolerant to photobleaching herbicide and derivatives thereof of claim 1, comprising a polypeptide having the amino acid sequence represented by SEQ ID NO: 2, wherein one or more amino acids is deleted and the polypeptide has an enzyme activity equivalent to that of said protoporphyrinogen oxidase tolerant to photobleaching herbicide.

3. (Amended) The isolated protoporphyrinogen oxidase tolerant to photobleaching herbicide and derivatives thereof of claim 1, comprising a polypeptide having the amino acid sequence represented by SEQ ID NO: 2, from which a transit peptide is deleted and one or more amino acids is deleted, added or substituted, and the polypeptide has an enzyme activity equivalent to that of said protoporphyrinogen oxidase tolerant to photobleaching herbicide.

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4. (Amended) The isolated protoporphyrinogen oxidase tolerant to photobleaching herbicide and derivatives thereof of claim 1, comprising a polypeptide having the amino acid sequence represented by SEQ ID NO: 2, from which a transit peptide is deleted, and the polypeptide has an enzyme activity equivalent to that of said purified protoporphyrinogen oxidase tolerant to photobleaching herbicide.

5. (Amended) The isolated protoporphyrinogen oxidase of claim 1, comprising an amino acid sequence represented by SEQ ID NO: 2.

a2
7. (Amended) The isolated protoporphyrinogen oxidase according to any one of claims 1-5, wherein the photobleaching herbicide is a compound selected from the group consisting of ethyl 2-chloro-5-(4-chloro-5-difluoromethoxy-1-methyl-1H-pyrazole-3-yl)-4-fluorophenoxyacetate, ethyl 2-[5-(4-chloro-5-difluoromethoxy-1-methyl-1H-pyrazole-3-yl)-2,4-dichloro-phenylamino]propionate, 4-chloro-3-[4-chloro-2-fluoro-5-methoxyphenyl]-5-difluoromethoxy-1-methyl-1H-pyrazole, 4-chloro-3-[4-chloro-2-fluoro-5-(2-propynyl)oxyphenyl]-5-difluoromethoxy-1-methyl-1H-pyrazole, ethyl 2-[2-chloro-5-(4-chloro-5-difluoromethoxy-1-methyl-1H-pyrazole-3-yl)-4-fluorophenoxy]propionate and 1-methylethyl 5-[4-bromo-1-methyl-5-(trifluoromethyl)-1H-pyrazole-3-yl]-2-chloro-4-fluoro-benzoate, 4-chloro-3-(4-chloro-2-fluorophenyl)-5-difluoromethoxy-1-methyl-1H-pyrazole.

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8. (Amended) The isolated protoporphyrinogen oxidase according to claim 7, wherein the photobleaching herbicide is ethyl 2-chloro-5- (4-chloro-5-difluoromethoxy-1-methyl-1H-pyrazole-3-yl)-4-fluorophenoxyacetate.
